PATENT
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Coppens et al.
Serial No.:	08/898,736
Filed:	July 23, 1997
Title:	PROCESS FOR THE PREPARATION OF MALTED CEREALS
Group Art Unit:	1761
Examiner:	C. Sherrer

SUPPLEMENTAL DECLARATION OF THEO COPPENS UNDER 37 CFR 1.132

Honorable Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Dear Sir:

I, Theo Coppens, pursuant to 37 C.F.R. §1.132, declare as follows:

1. I am one of the inventors in the above-identified patent application.

2. At the time I and my co-inventors filed the instant patent application, the art and articles taught how to activate spores, especially in light of the specification of the instant patent application. Copies of articles located in a review of the literature showing how to germinate and/or activate are being provided in a separate Declaration.

3. The data in specification of this application proves a significant difference between the enzymatic activity of cereal malted with activated spores compared to Gyllang's dormant spores. The specification at page 20, Example I describes the activation of Rhizopus oryzae on TSB at pH 4 with an incubation for 5-6 hours at 42C°. The experiment resulted in the following enhanced enzymatic activity using activated spores.

	A_1	B_1	C_1	D_1
	Traditional	Non Activated	Activated	Activated
β glucanase	214	371	683	3856
Xylanase	28	34	56	984

Example 3 at p. 27 of specification further describes the activation of Rhizopus oryzae and the enhanced enzyme activity which resulted using activated spores.

	A_3	B_3	C_3
	Traditional	Non Activated	Activated
β glucanase	202	931	1322
Xylanase	43	65	71

4. In view of this data as set forth in the specification, one of ordinary skill in the art of the instant application,

would not expect that the blend which Gyllang added to the cereal as described in the Gyllang reference would provide enhanced enzymatic activity in the cereal as great as activated spores as described in the specification of the instant application.

5. We know from the data and statistical results reported in my previous declaration signed by me on February 1, 2001 that the spores which added to his malting process were dormant. This dormancy is understandable in reference to the attach flow chart for the following reasons.

Spores grow as if they were fruit on a small tree. During growth, the spores become remote from the nutrient and become dormant at the time of harvest. In view of the experiment described in my past declarations, I believe Gyllang put his spores into a peptone, yeast extract and dextrose medium and grew them for three weeks. The spores grew as fruit on a tree and became remote from the nutrient medium and/or the medium became exhausted. As a result, the spores become dormant. Reference to the attached flow chart illustrates the cycle. The flow chart assumes Gyllang obtained his spores from the ATCC and grew them for about 7 days before he then grew them for three weeks. If the spores were activated at the time of Gyllang's homogenization and then addition to the cereal, they would have at least gown a germ tube after 6 hours at 20°C and 42°C. But as stated by me in my February 1, 2001 declaration no such germination tubes were observed after such time at such temperatures.

6. A determination of whether a spore is activated should based on criteria as described in the specification of this

application which criteria includes swelling and should not based upon measurement of the absolute size of the spore. An assumption that a spore is activated would be inaccurate if the assumption was based solely on spore size and not to a relative comparison to a spore which was known to be dormant and then swollen and activated as generally described in the specification. Moreover, measured spore size also may be affected by how the spore is measured, such as dry or in dispersion.

7. The results of the invention of activated spores providing enhanced enzymatic activity in cereal malting as claimed and as described in the data in the specification are unexpected and surprising over just the addition of dormant spores to cereals as described in Gyllang because

(a) Gyllang did not consider the amount of spores added as important (see page 252 of the article, first full paragraph), and if the number of spores was not important, activating the spores would not be apparent as an aid to creating substantially enhanced enzymatic activity over a cereal containing dormant spores; and

(b) The malting of Gyllang's took place over six days and one would have expected enhanced activity to be noticed and reported by Gyllang if his the dormant spores had significantly activated during the period of malting the cereal; however, the process of the claimed invention is not reported or suggested by Gyllang and such process apparently did not occur because Gyllang added what he described as metabolically inactive spores (see page 252 of the article,

first full paragraph).

8. The exact malting done by Gyllang can not be duplicated merely from the information reported in the Gyllang reference not only because the concentration of the 6 kg of barley and homogenate in the steep is not known because the amount of water in the steep is not known, but also because the exact size of the culture and amounts of peptone, yeast extract and dextrose and cultivated spores in the homogenate are not known.

The undersigned, being warned that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. §1001) and may jeopardize the validity of the application or any patent issuing thereon, hereby declares that the above statements made of my own knowledge are true and that all statements made on information and belief are believed to be true.

Date: September 14th, 2001

Theo Coppens